

REMARKS

Entry of the amendments is respectfully requested. This Application contains claims 1-15, 17-37, 40-41, 44-47, 50-52, and 54-59 pending and under consideration. In this Response, claims 1, 5, 7, 19, 20, 34, 40, 46, 50, 52, 54, 55, and 56 have been amended. Claims 16, 38, 39, 42, 43, 48, 49, and 53 have been canceled and new claims 58 and 59 have been added. In view of the discussion below, it is believed that the application is allowable over the cited art. Consequently, reconsideration leading to allowance of all pending claims is requested.

Claim Rejections under 35 USC §102

Claims 1, 3, 4, 6, 7, 13-15, 17, 18, 40-43, and 52-57 have been rejected under 35 USC §102(b) over Brosnahan III (US 5,745,598).

Claim 1 has been amended to recite that the spacer includes a side wall that has a discontinuity extending along a length of the body and aligned with the end wall discontinuity. Support for this amendment can be found in original claim 16. Consequently, claim 16 has been canceled.

It is believed that claim 1 as amended is not anticipated or made obvious by Brosnahan III. The Brosnahan device as shown in the figures does not include an opening from the concave side wall(s) 48b and 50b into the slot 40. (Brosnahan III, Fig. 14 and col. 5, lines 31-63.)

In contrast, the presently claimed invention includes a side wall discontinuity having an opening into the interior cavity. The opening from the side wall discontinuity into the interior cavity provides distinct advantages including access to load the interior of the spacer with an osteogenic material after the spacer has been implanted into the disc space. This cannot be accomplished with the Brosnahan device, which only provides an opening into the slot from the convex upper wall.

Therefore, it is believed that claim 1 is patentable over Brosnahan III. Withdrawal of the rejections of claim 1 and of claims 3, 4, 6, 7, 13-15, 17, 18, which depend either directly or indirectly from claim 1, is requested.

Claim 40 has been amended to recite that the first side wall includes a discontinuity aligned with the discontinuity of the first or second end. It is believed that claim 40 as amended and claims 41-43, which depend from claim 40, are patentable over Brosnahan III. As noted

above, the Brosnahan device does not include a side wall with a discontinuity and an opening into the interior cavity.

Consequently, withdrawal of the rejections of claims 40-43 over Brosnahan III is requested.

Claim 52 has been amended to recite that the spacer includes an elongate body comprised of metal. Support for this amendment can be found in original claim 2 as well as in other places within the specification. Brosnahan III does not disclose a spacer having a body comprised of a metallic material. It should also be noted that claim 2, which is directed to a spacer comprising a body comprised of metal, was not rejected over Brosnahan III. Consequently, withdrawal of the rejection of claim 52 over Brosnahan III is requested.

Claims 54-56 have been amended to depend from claim 52. Since claim 52 is believed to be patentable over Brosnahan III, claims 54-57 are also believed to be patentable over Brosnahan III. Consequently, withdrawal of the rejections of claims 54-57 is requested.

Claim 53 has been canceled. This rejection is moot.

Claims 1-8, 13-27, 32-37, 40-42, 44-48, and 52-57 have been rejected under 35 USC §102(e) over Kohrs (US 6,224,631).

Claim 1 has been amended as noted above and to further state that the body defines an interior chamber. In other words the interior chamber is surrounded by the two end walls and the side wall. Support for the amendment can be found in the application on page 9, at lines 3-4 among other places.

In contrast, the Kohrs' implant does not include an interior chamber. The Kohrs reference specifically states that the "present implants have no surrounding sidewalls and no chamber." (Kohrs, col. 3, lines 43-47.) Instead the Kohrs' implants have a central support member that separates the opposing surfaces of the implant. *Id.* That's it--there is no other structure for the implant. While the central support member can include a plurality of columns with openings between the spaces. (*Id.* col. 6, lines 13-15.) The openings between the columns do not define a chamber because of the lack of a side wall among other deficiencies.

Consequently, it is believed that claim 1 is patentable over Kohrs. Withdrawal of the rejections of claim 1 and of claims 2-8, 13-15 and 17-18, which depend from claim 1, is requested.

Claim 19 has been amended to recite that the body defines a hollow interior cavity between said first and second ends. Support for the amendment, can be found in the application on page 9, lines 3-5 and in Figs. 1 and 2. The hollow interior cavity does not include any other support members or structures between the end walls.

Kohrs as noted above includes a central support member or columns. Consequently, the interior region of the Kohrs' implant is not hollow as presently claimed. Withdrawal of the rejections of claim 19 is requested.

Claim 20 has been amended to recite that the second spacer is nested within the first spacer. Kohrs does not disclose or make obvious two spacers--one of which is nested within the other. Kohrs, as noted in the Office Action, includes first and second ends that have a concave discontinuity that extends along the length of the spacer. This is correct as far as it goes. However, Kohrs does not disclose or suggest that the concave discontinuity renders the spacer capable of being nested with a second spacer or, to take it step further, two nested spacers. Importantly, Kohrs only discloses one spacer. There is no mention, illustration, or teaching that two spacers can be nested together as presently claimed. Kohrs only discloses that the channels 24a and 24b can be filled with a bone support matrix, i.e., matrix 40. The bone support matrix is not a second spacer. It does not and cannot function as a spacer, i.e. capable of separating the two opposing end plates of the vertebrae.

Consequently, it is believed that Kohrs only discloses and or fairly suggests one spacer and not a system including two spacers as presently claimed. Therefore, withdrawal of the rejections of claim 20 and of claims 21-27 and 32-33, which depend from claim 20, is requested.

Independent claims 34 has been amended similar to claim 20 to recite that the second spacer is nested with the first spacer. It is believed that claim 34 is patentable over Kohrs and withdrawal of this rejection is also requested.

Independent claim 40 has been amended to include the substance of claims 42 and 43, i.e., implanting a second spacer into the intervertebral space oriented to nest within the first spacer. Claims 42 and 43 have been canceled. Since claim 43 was not rejected over Kohrs, it is believed that this amendment makes claim 40 patentably distinct from Kohrs. Withdrawal of the rejections of independent claim 40, and of claims 41 and 44-45 is requested.

Independent claim 46 has been similarly amended to include the substance of claim 48 and 49. Claims 48 and 49 have been canceled. Withdrawal of the rejections of independent

claim 46 and of claim 47 is requested, since it is believed that this amendment overcomes the rejections.

Claim 52 has been amended to recite that "the body ... having end walls and a side wall extending between said end walls, said side wall and said end walls defining an interior chamber". As noted above for claim 1, Kohrs does not disclose or make obvious a spacer that includes a chamber. It is believed that this amendment overcomes the rejection of claim 52. Claims 54-57 have been amended to depend from claim 52. Consequently, withdrawal of the rejections of claim 52 and of claim 54-57 is requested.

Claim 53 has been canceled, and this rejection is moot.

Claims 38 and 39 have been canceled. Consequently, the rejections over Vich (US 4,877,020) are moot.

Claim Rejections under 35 USC §103

Claims 9-12 and 28-31 have been rejected under 35 USC §103(a) over Kohrs.

Claim 1, from which claims 9-12 depend, has been amended as noted above to recite that the body of the spacer includes a chamber. Kohrs has been discussed above and does not disclose or make obvious a spacer that includes a chamber. In fact, Kohrs actually teaches just the opposite i.e. that the spacer should not include a chamber but merely be designed as an "I beam" type structure without any side walls that would be necessary to define a chamber. (Kohrs, col., 3, lines 43-45, and col. 4, lines 20-30.) Consequently withdrawal of the rejections of claim 9-12 is requested.

Claims 28-31 depend from independent claim 20. Claim 20 has been discussed above. Kohrs as it applies to claim 20 has also been discussed above. Notably, Kohrs does not disclose or make obvious a system of two spacers--one of which is nested within the other. In light of the above discussion, withdrawal of the rejections of claims 28-31 is requested.

Claims 43 and 49-51 have been rejected under 35 USC §103(a) over Kohrs in view of Brosnahan III. Claims 43 and 49 have been canceled. Claims 50 and 51 depend from claim 46 which recites that the discontinuity extends into the side wall and that the side wall defines an opening into the cavity. Brosnahan as noted above does not include a side wall with both a discontinuity and an opening into the slit, and Kohrs as noted in the Office Action does not disclose or suggest that using two spacers one of which nest with the other. (Office Action, page

4.) Consequently, the two references do not fairly suggest a method of promoting spinal fusion as claimed in claim 46. Since claims 50 and 51 have been amended to depend from claim 46 withdrawal of the rejections of these claims is also requested.

New Claims

Claim 58 has been added. Support for claim 58 can be found in the application on page 9, lines 8-10. It is believed that this amendment does not add new matter.

Conclusion

In view of the foregoing remarks, it is respectfully submitted that the cited references, considered either singly or in combination, do not disclose or make obvious the claimed invention. Accordingly, reconsideration leading to withdrawal of all the rejections under 35 USC §§102 and 103 is requested. Additionally, the Examiner is invited to telephone the undersigned attorney if there are any questions about this submission or other matters which may be addressed in that fashion.

Respectfully submitted,

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